

U.S. Serial No. 10/691,446
Response to Restriction Requirement
Mailed 22, 2005

Page 2 of 6

Complete Listing of All Claims

1. (Original) A system for processing can end shells into easy open can ends having a foil type tab covering a pour opening, comprising

first and second sets of progressive tooling for working on end shells, said tooling having cooperating upper and lower parts and being arranged in successive stations along a predetermined processing path to form a predetermined pour opening in the shells and then to attach a foil type tab over such pour openings,

a continuous conveyor belt having regularly spaced openings therein spaced apart corresponding to the spacing of the tooling stations, said openings extending along at least one lane longitudinally along said belt,

first and second drums supported respectively at opposite ends of said predetermined path to define upper and lower flights of said conveyor belt, the path extending through said first and second sets of tooling,

means for driving said belt around the first and second drums in incremental steps corresponding to the spacing of the tooling and moving said upper flight through said first and second sets of tooling when the tooling parts are opened,

shell carrier nests fitted into said openings in said belt, said nests including an array of flexible fingers adapted to engage a major extent of the periphery of a shell to hold the shell therein during conversion work on the shell as the shell is passed through said tooling,

attachment means on each of said nests fastening the respective said nest to said belt along a line transverse to said belt to allow each said nest to pass around said drums,

a loading station along said upper flight of said belt located between said first drum and the first set of tooling stations,

means at said loading station for presenting an end shell to each nest located at said loading station and placing a presented end shell onto said fingers.

U.S. Serial No. 10/691,446
Response to Restriction Requirement
Mailed 22, 2005

Page 3 of 6

means defining an unloading station beyond said second set of tooling whereby each completed end processed through said tooling sets is removed from said belt,

means for moving a web of foil tab material in increments over and across said belt at the location of the first stations of said second set of tooling to present foil material over a pour opening in a shell,

said second set of tooling including means for blanking a tab from the foil material and pressing the resultant tab onto the shell as a closure to said pour opening and further means for reforming the region of the shell around the pour opening with the tab in place.

2. (Original) A conveyor system as defined in claim 1, further including insertion means located between said loading station and the first of said tooling stations and driven synchronously with said progressive tooling to insert the end shell into full engagement with said fingers of said nest.

3. (Original) A conveyor system as defined in claim 1 wherein said nests each include a base ring having a peripheral ledge dimensioned to seat upon the edge of said openings in said belt, said fingers being formed as integral inwardly projecting extensions from said base ring spaced apart around the interior of said base ring, said fingers include shoulders thereon defining an interrupted circular surface adapted to press against the periphery of an end shell to retain the shell stationary in the nest while permitting limited motion of the shell as it is engaged by the tooling.

4-9. (Withdrawn)

10. (Original) A process for converting can end shells into easy open can ends having a foil type tab covering a pour opening, comprising

U.S. Serial No. 10/691,446
Response to Restriction Requirement
Mailed 22, 2005

Page 4 of 6

providing first and second sets of progressive tooling for working on end shells, said tooling having cooperating upper and lower parts and being arranged in successive stations along a predetermined processing path to form a predetermined pour opening in the shells with the first tooling set and then to attach a foil type tab over such pour openings with the second tooling set,

providing a continuous conveyor belt having regularly spaced openings therein spaced apart corresponding to the spacing of the tooling stations, said openings extending along at least one lane longitudinally of the belt,

supporting the belt on first and second drums respectively at opposite ends of the predetermined path to define upper and lower flights of said conveyor belt, the upper flight extending through the first and second sets of tooling,

driving the belt around the first and second drums in incremental steps corresponding to the spacing of the tooling and thereby moving the upper flight through the first and second sets of tooling when the tooling parts are opened,

providing carrier nests fitted into the openings in the belt, the nests including an array of flexible fingers adapted to engage a major extent of the periphery of a shell to hold the shell therein during conversion work on the shell as the shell is passed through the tooling,

providing a loading station along the upper belt flight located between the first drum and the first set of tooling stations,

presenting an end shell to each nest located at the loading station and placing a presented end shell onto the fingers.

providing an unloading station beyond the second set of tooling whereby each completed end processed through the tooling sets is removed from the belt,

moving a web of foil tab material in increments over and across the belt at the location of the first stations of the second set of tooling to present foil material over a pour opening in each shell,

blanking tabs from the foil material and pressing the resultant tab onto the shells as a closure to the pour openings.

U.S. Serial No. 10/691,446
Response to Restriction Requirement
Mailed 22, 2005

Page 5 of 6

11. (Original) The method defined in claim 10, including the additional step of reforming the region of the shell around the pour opening with the tab in place.